

IN THE CLAIMS:

Claims 1-2 (canceled).

Claim 3¹ (currently amended): A laser device with an optical fiber containing a laser activating substance inside for emitting a laser beam from a distal end portion thereof, a part of said optical fiber being fixed in a dense state by an optical medium, wherein

the optical medium is obtained by curing an oligomer substance so as to be changed to a polymer substance, said oligomer substance being substantially the same as said polymer substance, said polymer substance including a repeating unit represented by a general formula $\text{RSiO}_{1.5}$ ^{elements} wherein $\text{RSiO}_{1.5}$ is consisting of at least one member selected from a group consisting of a polymethyl silsesquioxane, a polymethyl-hydride silsesquioxane, a polyphenyl silsesquioxane, a polyphenyl-methyl silsesquioxane, a phenyl silsesquioxane-dimethyl siloxane copolymer, a polyphenyl-vinyl silsesquioxane, polycyclohexyl silsesquioxane, a polycyclopentyl silsesquioxane, a polyhydride silsesquioxane, a poly(2-chloro ethyl) silsesquioxane, and a poly(2-bromo ethyl) silsesquioxane, or a mixture of said at least one member and a polysiloxane, said oligomer substance being changed to a substance containing a polymer.

Claim 4² (currently amended): A laser device with an optical fiber containing a laser activating substance inside for emitting a laser beam from a distal end portion thereof, a part of said optical fiber being fixed in a dense state by an optical medium, wherein

the optical medium contains an amorphous silica produced by curing, said amorphous silica including a repeating unit represented by a general formula $\text{RSiO}_{1.5}$ wherein $\text{RSiO}_{1.5}$ is at least one member selected from the a group consisting of a poly(2-chloro ethyl) silsesquioxane, a poly(2-bromo ethyl) silsesquioxane, and a mixture thereof.

Claim 5³ (previously amended): The laser device according to any of claims 3¹ and 4², wherein the optical fiber is wound in a spiral shape or a coil-like shape.

Claim 6¹ (previously amended): The laser device according to any of claims 3¹ and 4², wherein the optical fiber is fixed in a bundled state.

Claim 7¹ (previously amended): The laser device according to any of claims 3¹ and 4², wherein a flat surface is formed on a side surface of the optical fiber such that the optical fiber is fixed in the state with the flat surface closely contacted with one another.

Claim 8⁴ (previously amended): A light signal amplifying device comprising the laser device according to any of claims 3¹ and 4², having another distal end portion of the optical fiber of the laser device as an input end of a signal light, and the distal end portion as an output end of an amplified light.

Claim 9¹ (new): A laser device comprising:
an optical fiber wound to form a plurality of adjacent parts; and
a bounding layer for bonding and fixing adjacent parts of the optical fiber, wherein the optical fiber further comprises:

a core containing a laser activating substance for emitting a laser beam from a distal end portion of the optical fiber; and

a clad formed around the core,

wherein the bonding layer is an organic-inorganic hybrid material that includes a repeating unit represented by a general formula $\text{RSiO}_{1.5}$, wherein $\text{RSiO}_{1.5}$ is selected from the group consisting of a polymethyl silsesquioxane, a polymethyl-hydride silsesquioxane, a polyphenyl silsesquioxane, a polyphenyl-methyl silsesquioxane, a phenyl silsesquioxane-dimethyl siloxane copolymer, a polyphenyl-vinyl silsesquioxane, polycyclohexyl silsesquioxane, a polycyclopentyl silsesquioxane, a polyhydride silsesquioxane, a poly(2-chloro ethyl) silsesquioxane, and a poly(2-bromo ethyl) silsesquioxane, or a mixture of said at least one member and a polysiloxane.

Claim 8¹⁰ (new): The laser device of claim 9⁷, wherein the organic-inorganic hybrid material forming the bonding layer has a 300 °C or higher thermal decomposition, a 1.40 to 1.56 refractive index and a transparency of 0.5 dB/cm or less loss.

Claim 9¹¹ (new): The laser device of claim 9⁷, wherein the organic-inorganic hybrid material is a polyhydride silsesquioxane wherein all organic side chains of the polyhydride silsesquioxane are methyl groups.

Claim 10¹² (new): The laser device of claim 9⁷, wherein the organic-inorganic hybrid material is a polyphenyl-methyl silsesquioxane wherein the polyphenyl-methyl silsesquioxane has phenyl groups and methyl groups as side chains.